

A screenshot of a software interface, likely a debugger or code editor, showing a file named 'temp2.c'. The window title is '<1> c:\Temp\cv\temp2.c'. The menu bar includes File, Edit, View, Build, Run, Instrument, Library, Tools, Window, Options, and Help. The code editor displays the following C code:

```
#include <ansi_c.h>

int main(int argc, char* argv[])
{
    char    *str = "Hello World";
    double  num1 = 123.456;
    int     num2 = 911;
    printf("Prior art of data tooltips..."); // num2=911
    getchar();

    return 0;
}
```

The line 'printf("Prior art of data tooltips...");' contains a tooltip 'num2=911' over the variable 'num2'. The status bar at the bottom shows '9/14' and other status indicators.

Fig. 1A (Prior Art)

A screenshot of a software interface, likely a debugger or code editor, showing a file named 'temp2.c'. The window title is '<1> c:\Temp\cv\temp2.c'. The menu bar includes File, Edit, View, Build, Run, Instrument, Library, Tools, Window, Options, and Help. The code editor displays the following C code:

```
#include <ansi_c.h>

int main(int argc, char* argv[])
{
    char    *str = "Hello World";
    double  num1 = 123.456;
    int     num2 = 1.23456000000000E+2; // num1=1.23456000000000E+2
    printf("Prior art of data tooltips..."); // num1=1.23456000000000E+2
    getchar();

    return 0;
}
```

The line 'int num2 = 1.23456000000000E+2;' contains a tooltip 'num1=1.23456000000000E+2' over the variable 'num2'. The status bar at the bottom shows '9/14' and other status indicators.

Fig. 1B (Prior Art)

The screenshot shows a CVI (LabWindows/CVI) IDE interface. The title bar reads "<1> c:\Temp\cv\temp2.c". The menu bar includes File, Edit, View, Build, Run, Instrument, Library, Tools, Window, Options, Help. The main window displays the following C code:

```
#include <ansi_c.h>

void main(void)
{
    int      i = 0;
    char    *string = "Hello world";

    printf("string: %d\n", string);
    printf("i: %d\n", i);
    printf("string = %s\n", string);
}
```

The status bar at the bottom shows "10/11" and "Suspended".

Fig. 1C (Prior Art)

The screenshot shows a CVI (LabWindows/CVI) IDE interface. The title bar reads "c:\Temp\cv\temp.cws - [temp2.c]". The menu bar includes File, Edit, View, Build, Run, Instrument, Library, Tools, Window, Options, Help, Debug. The left sidebar shows a project structure with "Temp" and "Temp2" projects, each containing a "Source Files" folder with "temp.c" and "temp2.c" respectively. The main window displays the following C code:

```
#include <ansi_c.h>

void main(void)
{
    int      i = 15;
    char    *string = "Hello world";
    char    *longStr;
    double   f = -147.87, g = f, h;
    int      *ptr;

    longStr = "LabWindows/CVI is a programming "
              "environment for developing instrument control, "
              "automated test, and data acquisition "
              "applications in ANSI C.';

    printf("string: %d\n", string);
    printf("i: %d\n", i);

    i = 2 + 3;
    h = 2+3=5;
    ptr = &i;
}
```

The status bar at the bottom shows "19/23" and "19".

Fig. 1D (Prior Art)

The screenshot shows a debugger interface with two main windows. The top window is a source code editor titled "c:\Temp\cv\temp.cws - [temp2.c]". It displays the following C code:

```
#include <ansi_c.h>
void main(void)
{
    int     i = 15;
    char   *string = "Hello world";
    double f = -147.87, g = f, h;

    printf("string: %d\n", string);
    printf("i: %d\n", i);

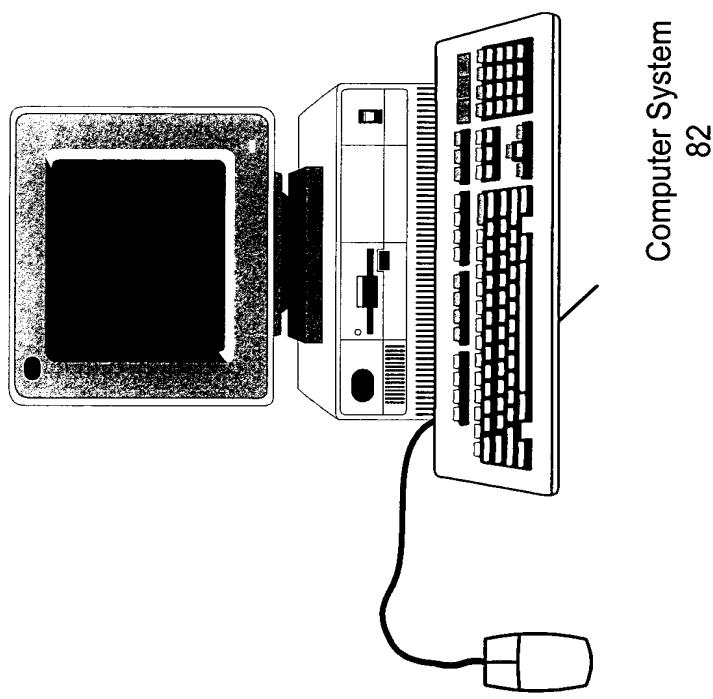
    i = 2 + 3;
    h = 2 * f;
}
```

The bottom window is a "Variables" window. It lists the following variables and their values:

Variable	Type	Value
i	int	15
string	char *	0x004224E8 "Hello world"
f	double	-147.87000000000000
g	double	-147.87000000000000
h	double	5.949219881053892E+194

An "Edit Value (Decimal)" dialog box is open over the variables window, showing the value "500.23000000" in the "Value:" field.

Fig. 1E (Prior Art)



Computer System  
82

Figure 2A

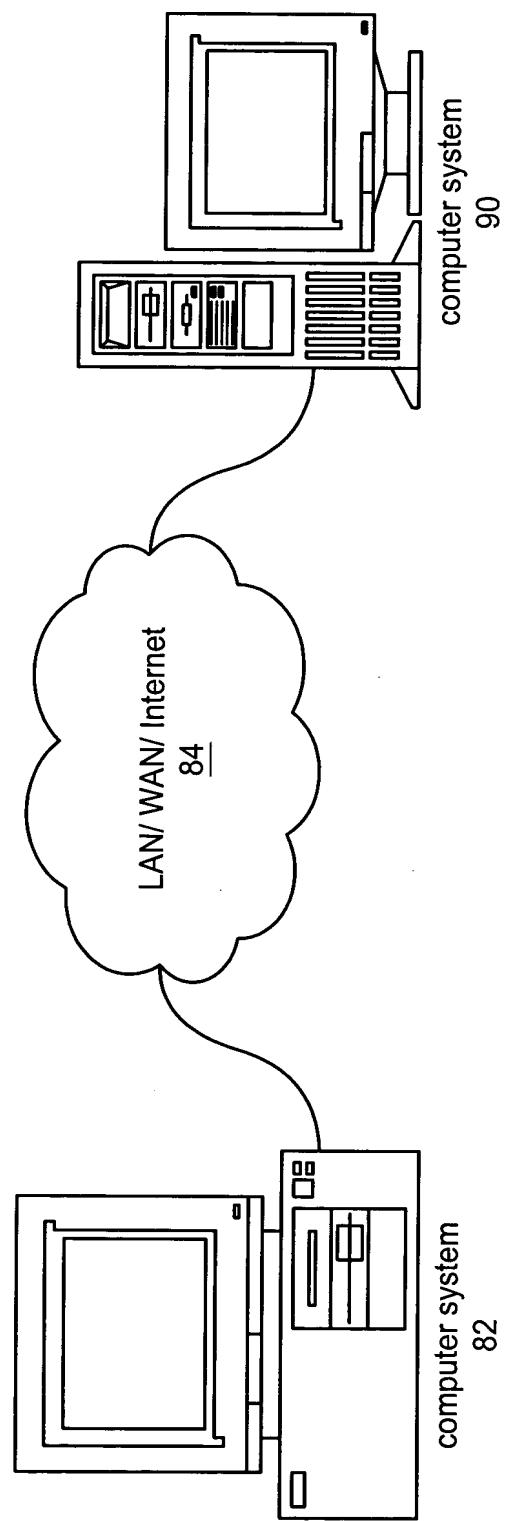
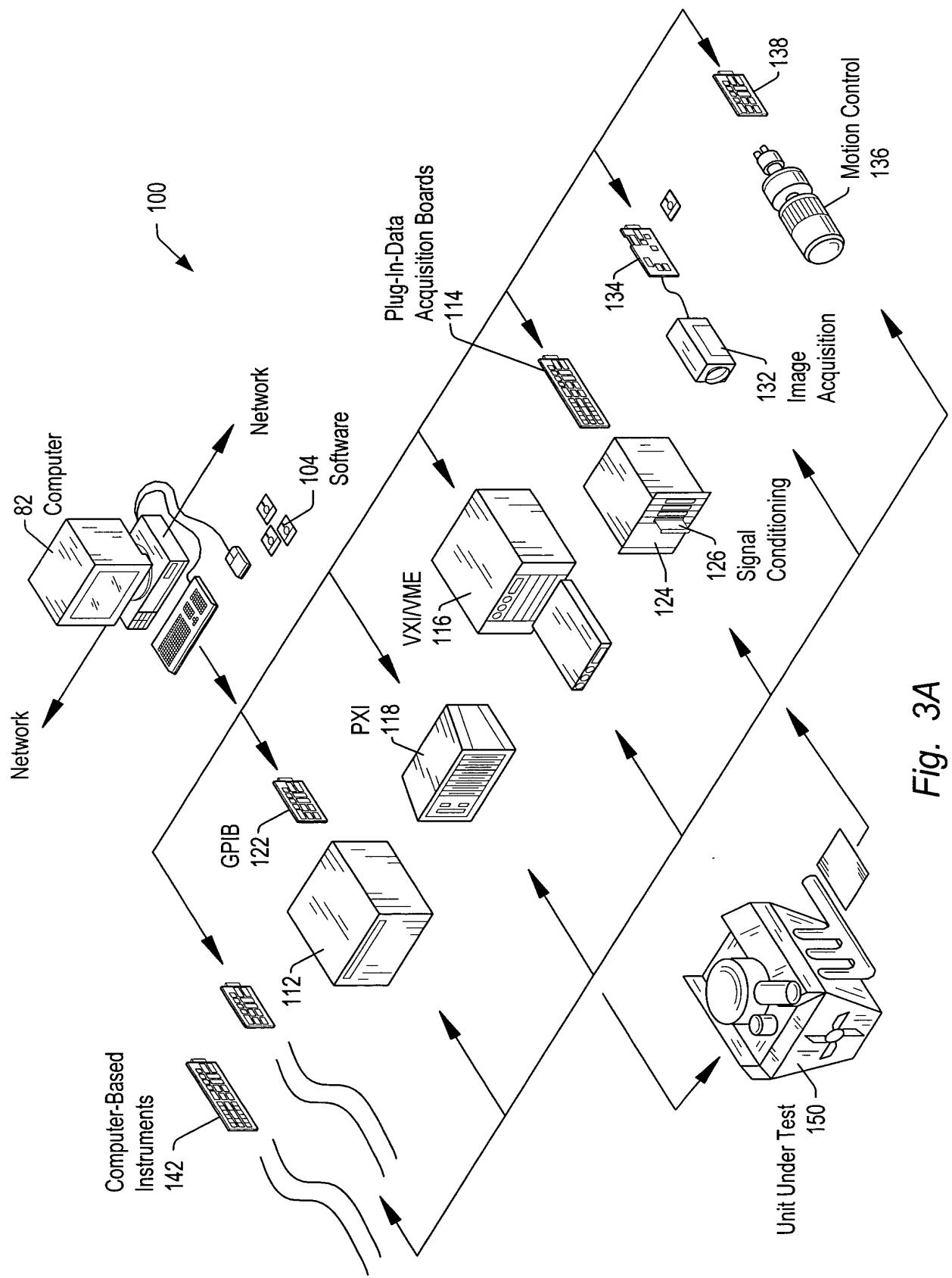


Figure 2B



*Fig.* 3A

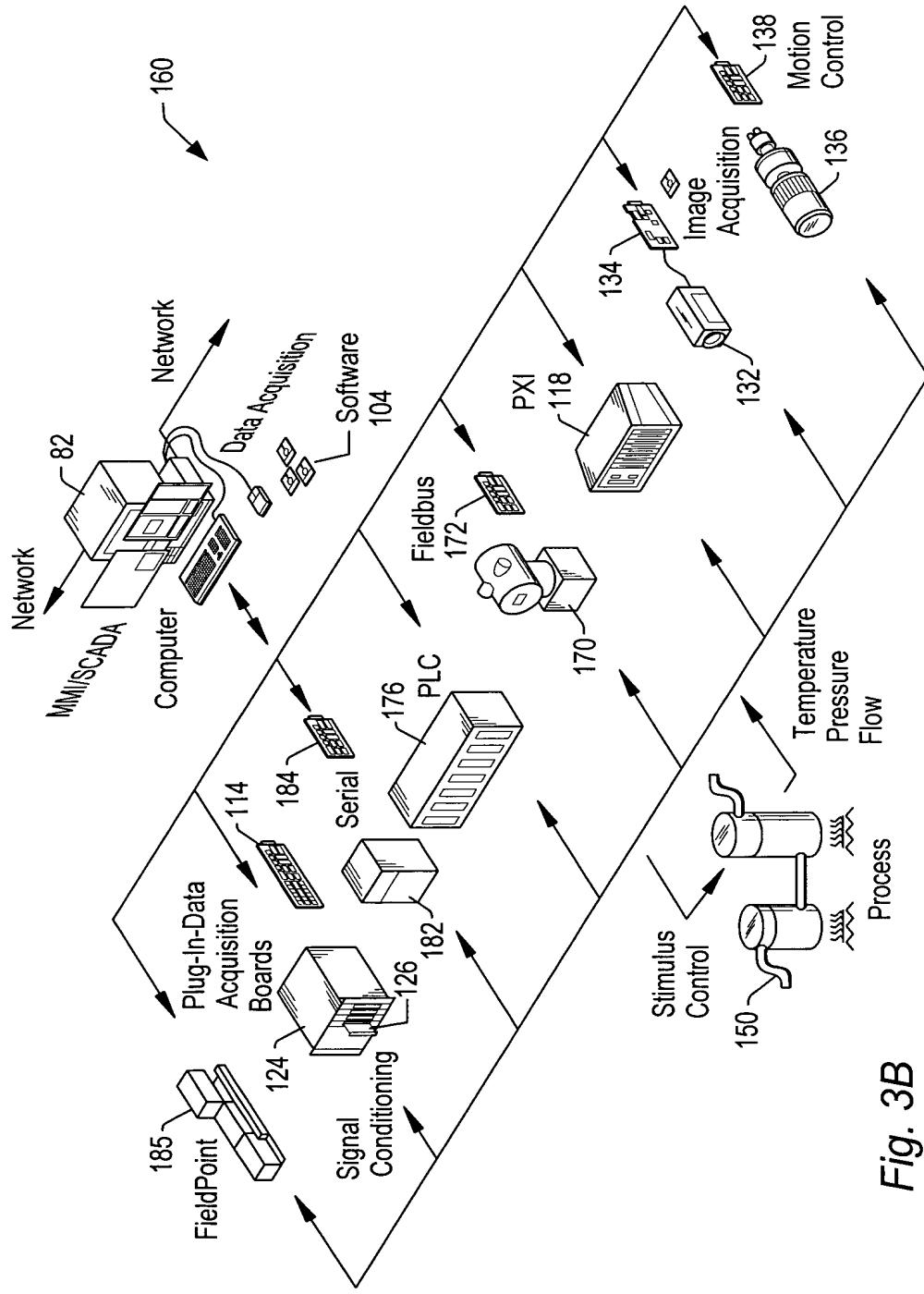


Fig. 3B

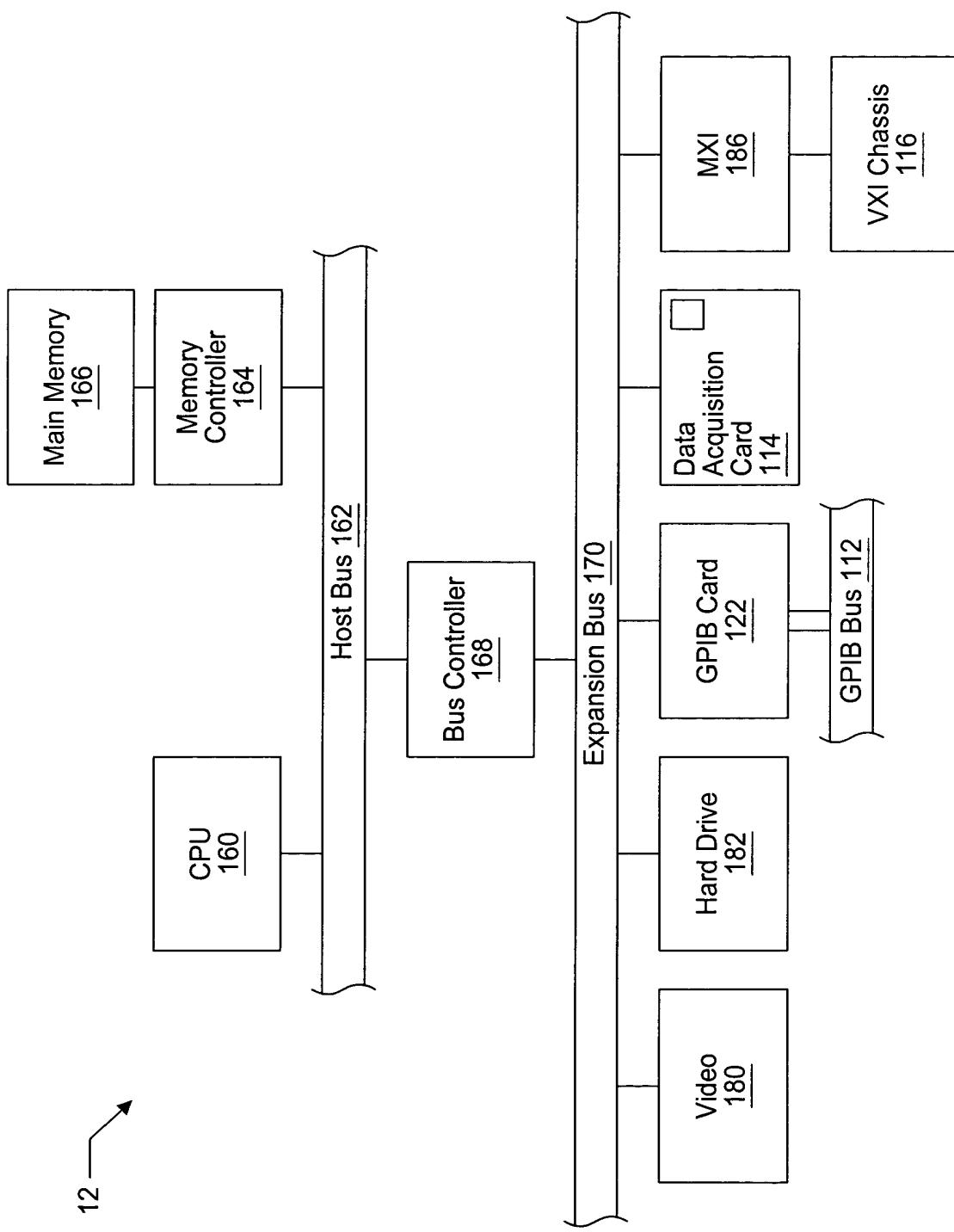
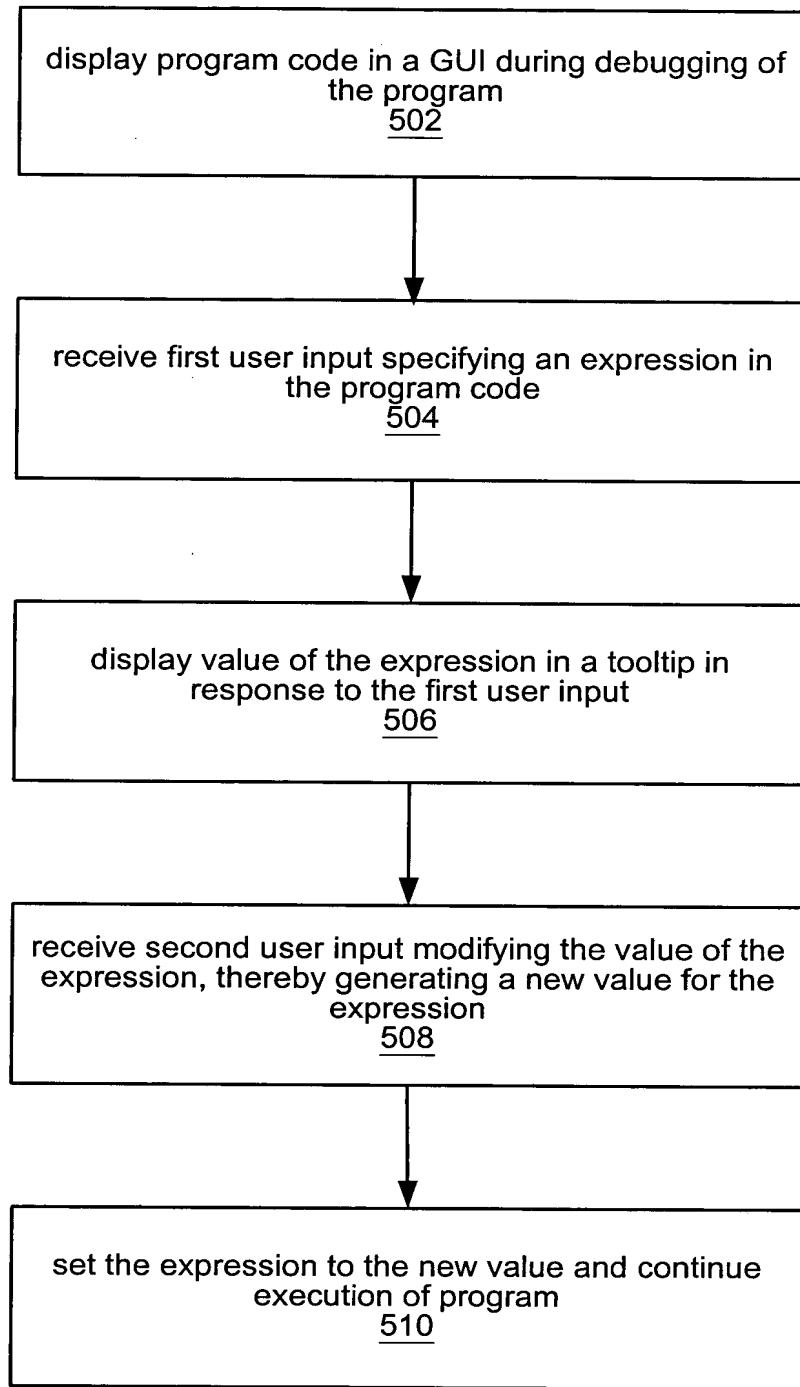


Figure 4



*Fig. 5*

c:\Temp\cv\temp.cws - [temp2.c]

File Edit View Build Run Instrument Library Tools Window Options Help Debug

Temp  
Source Files  
temp.c  
Temp2  
Source Files  
temp2.c

```
#include <ansi_c.h>

void main(void)
{
    int     i = 15;
    char   *string = "Hello world";
    double f [string = 0x004224E8 Hello user]

    printf("string: %d\n", string);
    printf("i: %d\n", i);

    i = 2 + 3;
    h = 2 * f;
}
```

10/15 | 5 | Ins | Suspended |

Fig. 6A

c:\Temp\cv\temp.cws - [temp2.c]

File Edit View Build Run Instrument Library Tools Window Options Help Debug

Temp  
Source Files  
temp.c  
Temp2  
Source Files  
temp2.c

```
#include <ansi_c.h>

void main(void)
{
    int i = 255, k;
    double f = -147.87, g;

    k = i;
    k = FF;
    g = 1000.0 * f;
```

6/12 | 11 | Ins | Suspended

Variables

File Edit View Format Run Window Options Help

Symbol	Type	Value
i	int	255
k	int	0xFF
f	double	-147.87000000000000
g	double	-147870.0000000000000000

Fig. 6B

c:\Temp\cvl\temp.cws - [temp2.c]

File Edit View Build Run Instrument Library Tools Window Options Help Debug

Temp  
Source Files  
temp.c  
Temp2  
Source Files  
temp2.c

```
#include <ansi_c.h>

void main(void)
{
    int i = 255, k;
    double f = -147.87, g;

    k = i;

    g = 1000.0 * f;
    g = -1.47870000000000E+5
}
```

7/12 27 Ins Suspended

cvl Variables

File Edit View Format Run Window Options Help

Variables	Registers	Stack
i	255	int
k	0xFF	int
f	-147.8700000000000	double
g	-1.47870000000000E+5	double

Fig. 6C